

INTERCEPTION MONITORING SOLUTIONS



Internet Monitoring System

Monitoring of Landline
& Cellphone Networks

Unified Monitoring Platform

Portable Monitoring device

Cyber café monitoring

SSL Interception & Decryption System

Hand Held wifi monitoring

Remote Desktop/ Laptop Monitoring

Granular Webpages Blocking

Link Analysis

Computer and Cellphone Forensics



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Internet Monitoring System

Paladion provides comprehensive range of solutions of Internet Monitoring to help Law Enforcement Agencies identify and track suspicious communication. Our Internet Monitoring system is a packaged product comprising software and hardware that can capture Internet traffic flowing to or from a given ISP location. It can monitor wide range of Internet protocols and filter them based on granular criteria.

Product Range-

Paladion Internet Monitoring solution is offered in following configurations-

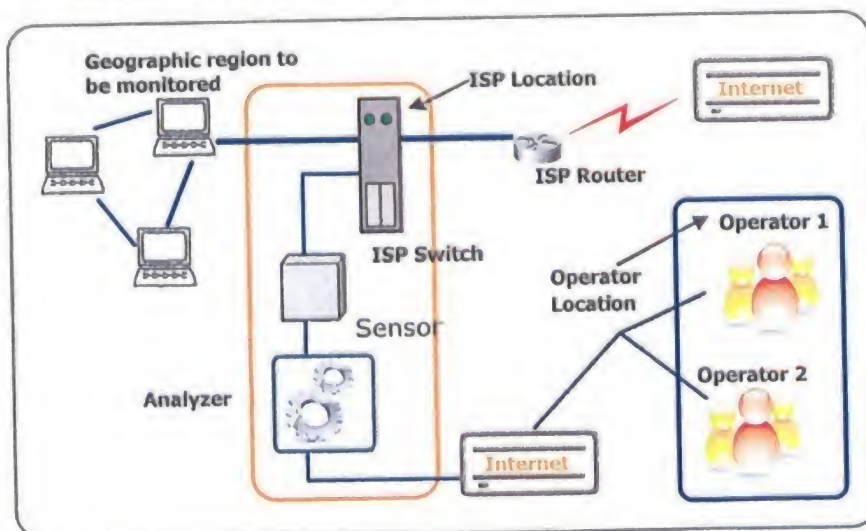
- **Stand-alone system-** The system caters to a single service provider and single user. The monitoring system is placed at service provider and the single user connects directly to use the system
- **Distributed system-** When the requirement is to monitor several service provider simultaneously from single user premises. The distributed system allows unifies control and command for interception at various service provider locations
- **National platform-** the national platform has multi-tier architecture to cater to several service providers across cities and several users located across regions with differing jurisdiction. The system acts as a common infrastructure to be used amongst various agencies and covering entire national communication traffic
- **Strategic data centric-** This solution enables mass scale storage of communication in real time and post-facto data centric analysis to gain actionable intelligence. The strategic system is ideal for deep intelligence gathering by mining of stored data

Product Features

- Works at carrier grade speeds of 40G and storage capacity of 1000TB
- Supports all internet protocols including data, voice and video
- Monitor various networks- gigabit, STM, wifi, wimax, optical, broadband, DSL
- Advanced search feature for data centric analysis and behavior analysis
- Can monitor up 10000 targets concurrently

Benefits to customer

- Comprehensive monitoring of the target traffic
- Finding out new targets with the help of heuristic analysis
- Easy to deploy and operate
- Lowest cost solution in the market



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Monitoring of Landline & Cellphone Networks

Paladion Telecom Operator Interception System (TIS), enables law enforcement agencies to manage and provision target subscribers in telecom operator network as well as obtain the intercepted call content along with required call related information over prescribed standard interface. The intercepted contents like voice files, fax files, IP world protocols, SMS content along with respective call data records or call related information are extracted transparent to the network and targets. The system can be deployed to various communication networks like GSM, CDMA, PSTN, WLL and Broadband Networks to intercept subscriber's communication and delivers it to security agencies.

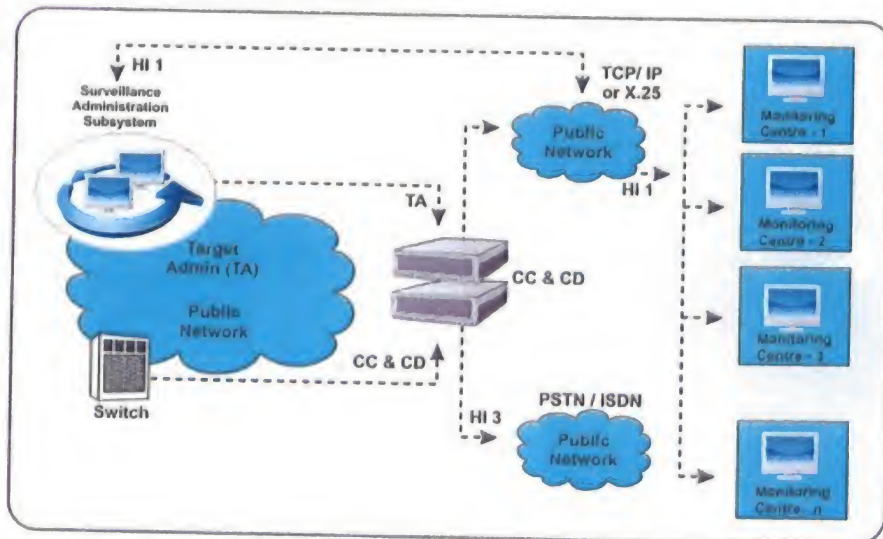
Paladion Telecom Operator Interception System is a powerful solution for large scale interception in a round the clock operation and gives you the ability to record all conversations and messages of target. The powerful search & playback facility allows you to easily & quickly search, sort and listen to any recorded conversation and view any intercepted message.

System Highlights-

- Monitor various networks- PSTN, Broadband, GSM, CDMA, GPRS, 3G
- Handles voice, sms, multimedia and IP packets
- Real time target provisioning and interception
- Multi-agency support with tiered architecture
- Advanced post-capture analysis
- Compliant to global standards

Features & Functionality

- **Target Provisioning-** The system allows for easy and quick target provisioning along multiple dimensions. Targets can be provisioned by users directly to the operator's network seamlessly
- **Case Categorization-** The system uses artificial intelligence techniques to automatically categorize the captured information into user defined cases
- **Post capture analysis-** Post capture analysis graphical link analysis, multi-dimension visualization, temporal and spatial cross-correlation, speech recognition and GIS analysis
- **Mass interception & storage-** System can provide for mass interception of large scale data and storage with features for fast analysis of stored data. Several built-in search options can automate discovery of actionable intelligence under mass interception



Unified Monitoring Platform

Paladion provides state of the art platform for unified Monitoring of voice, data and multimedia content across service providers, ranging from Internet Service Providers, Telephone Operators, Mobile Operators and satellite communication providers. Our Unified Monitoring system helps in centrally collecting and managing interception data from variety of networks, be it voice, SMS, fax, Internet data or video communications..

Product Architecture-The unified monitoring system has following components

1. **Universal probes** – The probes are placed at service provider network and captures the communication over the network. The probe can be placed for wireline (PSTN), wireless (GSM, CDMA), packet based network (Internet) service providers
2. **Centralized collection system-** The centralized collection system connects to all the installed probes to receive the captured communication. This system can scale up to handle thousands of installed probes
3. **Unified analysis platform-** The analysis platform carries out both individual analysis of communication and cross-analysis from disparate communication network. While enabling faster targeting of specific communication, it also helps in deriving higher intelligence through advanced correlations amongst multiple channels of communication.

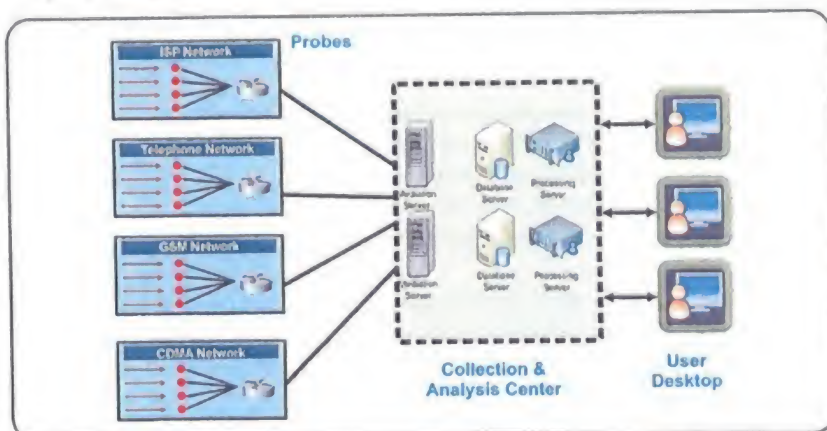
Our system helps law enforcement agencies to reduce cost and effort through a single platform for monitoring and analysing across multiple channels. And it also allows for cross-correlation of target's communication flowing through multiple channels.

System Highlights-

- Monitor various networks- PSTN, GSM, CDMA, UMTS, Gigabit Ethernet, STM, Wifi, DSL, Optical from single platform
- Unified view of all target activities across network
- Advanced post-capture analysis and cross-correlations
- Lower complexity and cost of ownership

Features & Functionality-

- **Target Definition-** The system allows for target definition along multiple dimensions. These can be combination of keywords, logical ids, locations, IP addresses, telephone numbers, communication protocols, time etc. The targets can be selectively defined for each operator and location or can be applied in mass across groups of operators
- **Case Categorization-** The system uses artificial intelligence techniques to automatically categorize the captured information into user defined cases
- **Advanced analysis-** the system provides advanced features for social network analysis, contextual analysis, speech recognition, location tracking and query builder



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Portable Monitoring device

Paladion's portable monitoring device is an effective monitoring tool for tactical operations. Often, agencies are required to gather local communication traffic for suspected targets. These might include a short term monitoring of a local ISP or its sub network in a city. It could also involve need based monitoring of a public LAN or corporate LAN or any termination point between networks.

A portable Monitoring device will help LEAs to easily target an organization or individual by tapping into his communication via Internet and telephone. The portable device comes along with it all the accessories like Taps, Interface cards etc to cater to all types of traffic inputs such as E1, GE, FE, STM1/4/16, WiFi etc. It can be used for data centric or target centric operations.

Features

- Handle traffic up to 1Gbps
- Storage space up to 2TB
- Supports all major Internet protocols
- Self contained accessories for quickly connecting to any form of link (copper/ OFC, ethernet/ STM/ E1/, VLAN, MPLS, ADSL etc...)
- Does Data centric and target centric operation
- Extremely rugged and can be used in harsh environmental conditions

Benefits to customer

- Easy to target an individual or corporate once the source of their communication channel is identified
- Easy to carry and deploy
- Can be remotely accessed and used
- Dump data for considerably long time for forensic analysis



Cyber Café monitoring

Interception and monitoring of network traffic in a cybercafé is occasionally required by law enforcement agencies. However enabling such monitoring of traffic is usually difficult as it requires either reconfiguration of the cybercafé network or putting in network taps and multiple hardware/ software in the cybercafé. It also requires skill and knowledge on networking and interception technologies on part of law enforcement personnel. Furtheron, the cost of installing such product across cybercafé is usually prohibitive.

Paladion's cyber café monitoring system is an all-in-one plug and play device. With innovative technologies, Paladion has integrated all features of interception, network configuration, packet analysis and reporting in a single low price hardware device. The device can work at line speed and capture high bandwidth traffic in cybercafé. It can be installed in few minutes into any cybercafé network by law enforcement personnel without any skills on networking or interception technologies. This highly portable and lightweight device can be carried without suspicious to locations that require monitoring.

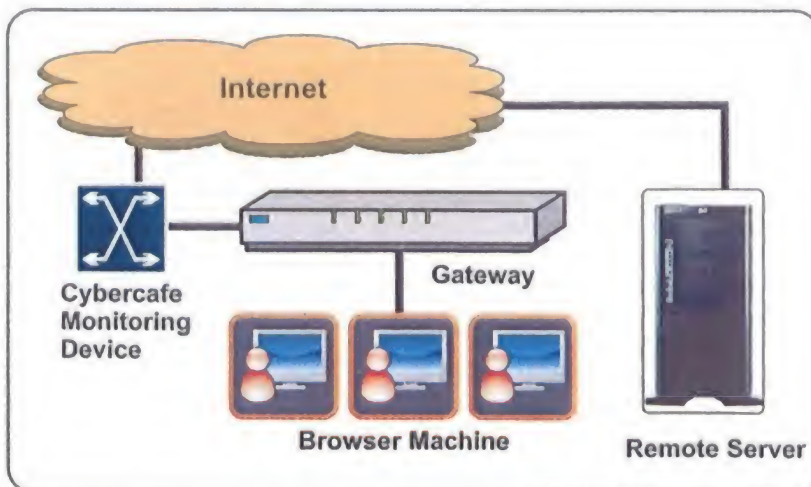
Once installed the system can capture all packets and silently monitor for suspicious traffic. It can analyse various protocols and reconstruct user sessions. It is capable of decoding and reconstruct WLAN Internet traffic in real time such as Email (POP3, SMTP, IMAP), Webmail (Gmail, Yahoo Mail, Windows Live Hotmail etc.), Instant Messaging/Chat (MSN/Windows Live Messenger, Yahoo Messenger, IRC, ICQ, QQ, UT Chat Room, Google Talk), FTP, P2P, TELNET, HTTP (URL, Content, Download/Upload) etc. It can also decrypt SSL traffic if installed in MITM configuration.

Features

- Handles traffic up to 100Mbps with build in storage of up to 500GB
- Works in fully stealth mode with no IP address
- Can be used as data logger for forensic analysis or for monitoring specific targets
- It can perform target centric and data centric operations on the data
- It can monitor SSL sites
- Can scale up to thousands of cyber café

Benefits to customer

- Hassle free deployment at any cyber café
- Complete tracking of the cyber café where it is deployed
- Remote control of the system from LEA premises
- Solution for low cost and quick deployment at cyber café



SSL Interception & Decryption System

LEAs as a part of their normal activities would be required to track communication between suspects. This becomes impossible if the suspects communicate over an SSL enabled site, which encrypt the content of communication. Paladion's SSL interception software is helpful in such scenario. It has build a fully operational system for SSL interception solution at 1 Gbps of traffic in real time. The solution works by being man-in-the-middle for the communication of suspects.

Working Method

The interception of SSL sites are carried in following manner-

- Paladion's SSL Interception System is placed in line of the communication by inserting it in the network. This system is then configured as proxy server to intercept the traffic. The proxy also has capability to incorporate appropriate certificate and encryption key
- Alternately, if the proxy solution is not desired, then the SSL Interception System can be positioned in parallel to the gateway router or edge router. The router is configured to divert the specific SSL traffic to the interception system. The interception system then decrypts as well as acts similar to man-in-middle equipment
- In either of the above two cases, the SSL traffic of the suspect is intercepted, decrypted and then analysed, while allowing the original communication to be conducted unhindered

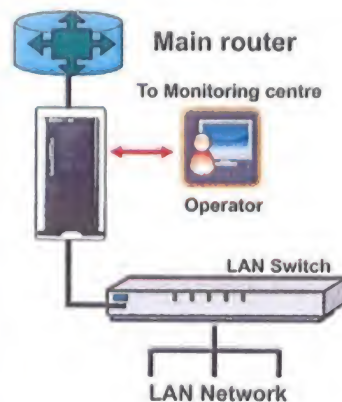
Features

- Intercept all the SSL communication happening in the IP address and the IP address range from which the traffic is forwarded
- Filter traffic based on keywords, email address etc...
- Can handle up to 2500 concurrent connections
- Works in the stealth mode

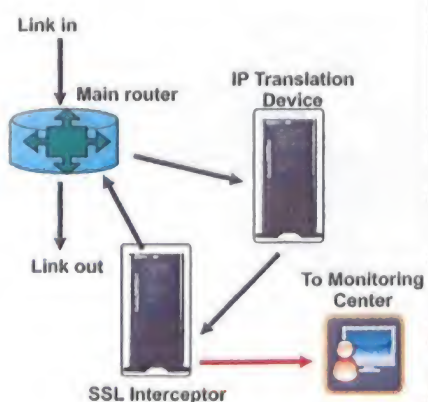
Benefits to customer

- Track all SSL traffic from an IP address or IP address range
- Track the suspects encrypted communication using Gmail, Hush mail etc...
- Track the suspects banking transactions etc..

SSL Interception System- Proxy Based



SSL interception System- Router Based



Handheld Wifi Monitoring

LEAs often find it difficult to track a WiFi hotspot clandestinely. This is because the portable WiFi devices are not small enough to be hidden completely. Paladion has launched a revolutionary product for wifi monitoring that is the smallest and lightest in the world currently. This handheld device with 7 inch screen has fully built-in wifi interception software and accessories and requires no additional equipment. Being extremely lightweight and small, it can be easily and secretly carried by forensic professional to any place that requires wifi monitoring. Forensic professionals can avoid any notice while carrying this handheld, which is designed as a PDA/ mobile phone.

Paladion's Wifi interception device has comprehensive features for forensic investigation by law enforcement agencies. It is the most reliable solution in market today to monitor illegal Wireless LAN Internet activities or transactions in most secret manner for law enforcement agencies.

Features

- Capture multiple channels for 802.11 a/b/g
- Full packet capture and decoding functionality
- Supports all major TCP and UDP protocols
- Up to 40G of HDD space for data capture
- Free text search and Boolean operations
- Intuitive and touch screen enabled GUI

Benefits to customer

- Easy to carry and deploy
- Very small in size and can be hidden from others
- Immediate analysis of the data at the target location
- Dump data and carry back for forensic analysis





Remote Desktop/ Laptop Monitoring

On several occasions, LEAs may require to access the data stored in suspect's desktop or laptop. This could include getting the files, emails, web browsing history and other such data. While computer forensics tool enable analysis of computers in possession of LEAs, in some cases such analysis may be required for remote computers which may or maynot be in possession of LEAs.

Paladion remote analysis tool helps LEA to analyze the content of desktop or laptop from a remote location and without the knowledge of the user. These can include documents, images, emails and any other data stored on local computer. More over the tool can also track all activities on the computer such as chats, voice calls and keystrokes.

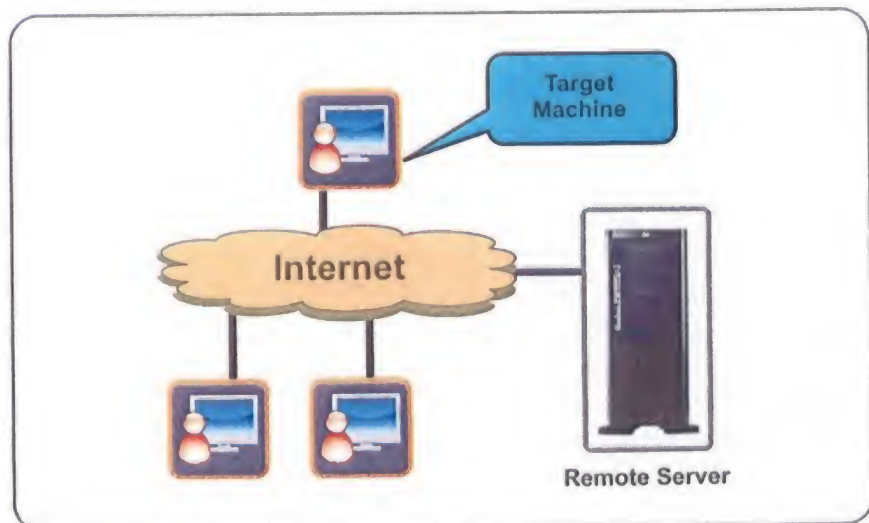
The system has client server architecture with multiple remote clients controlled by central server. The server program can search for files with certain contents, get all the keystrokes, get VOIP data, chat clients etc... The client can be installed on remote computers in several manner and can be made difficult to detect on the system.

Features

- Remotely gathers data from computer
- Search for files and emails with keywords
- Search for deleted files with certain contents
- Get all the keystrokes, VOIP communication, chat sessions
- Works transparently in the computer and hard to detect
- Full featured search and retrieval of data
- Scale up to multiple simultaneous search operations

Benefits to customer

- Complete access to a suspect's computer
- Unearth variety of information from the computer
- Highly covert operation
- Gain access to encrypted communication in free form



Granular Webpages Blocking

Law Enforcement Agencies and other Government bodies (together referred henceforth as LEAs), are usually asked to stop certain Internet activities for public safety or national security. However blocking such sites is not always easy. Several times, such sites may be micro-site or the pages existing within another parent URL. Many times, a single server (IP address) hosts multiple websites and the need is to block only selected site and allow other sites on the same server from being accessed. LEAs should be able to block such specific pages and not have complete blocking of all websites or webpages.

In order to avoid overblocking while still effectively block a particular webpage/ website, Paladion provides unique website blocking solution. The solution carries out deep packet inspection at speeds of 10Gbps and provides granular blocking.

Working Method

The granular blocking of webpages is carried in following manner-

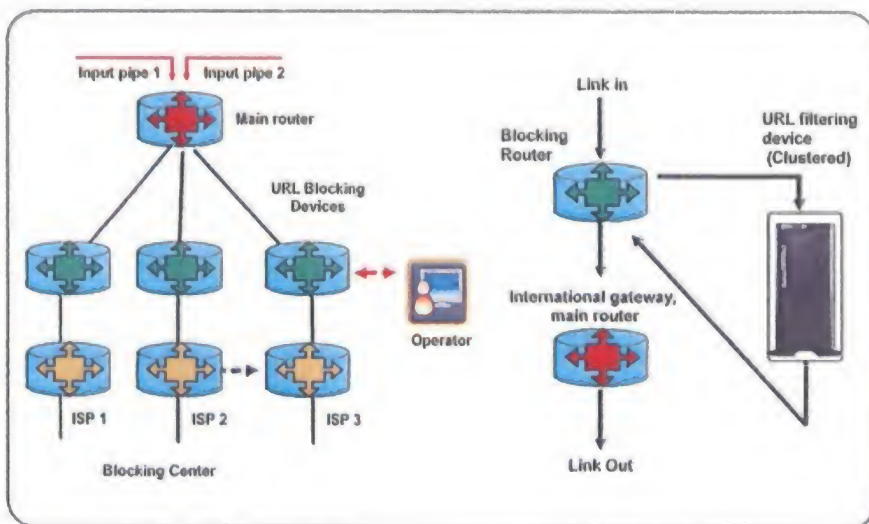
- A deep packet based URL blocking device is connected in parallel to the edge router either at ISP network or at national gateways
- The IP addresses or range of addresses is selectively diverted from the routers to the URL blocking devices
- The blocking devices analyses the content of packets and determines whether the appropriate webpage exists. If so, it will block the communication, else it allows the communication to be routed back through the edge router to Internet

Features

- Supports bandwidths up to 10Gbps
- Supports blocking up to 5000 websites or pages
- Prevents overblocking while effectively blocking required pages
- Websites are blocked based on deep packet inspection
- Blocks communication even if the user uses Web proxy
- Works in high available mode.

Benefits to Customer

- Specific Websites or URLs can be blocked
- Handles very high traffic of 10Gbps
- Effective blocking with minimal false positives
- Cannot be bypassed using Web proxy



Link Analysis

As people communicate over data and voice network, they create a series of interlinkages. Analysis of such interlinkages can provide valuable information on the network of suspect. Manual analysis of millions of communication is never an option and LEAs require specialized tools for carrying out link analysis.

Paladion's Link analyzer is a tool which can be deployed along with Internet Monitoring System (IMS) and Telecom Monitoring System (for landline & Cellphone network) to get the metadata of various communications. For example, the link analyser can collect email communications in real time and create dynamic updated links of suspect's communication.

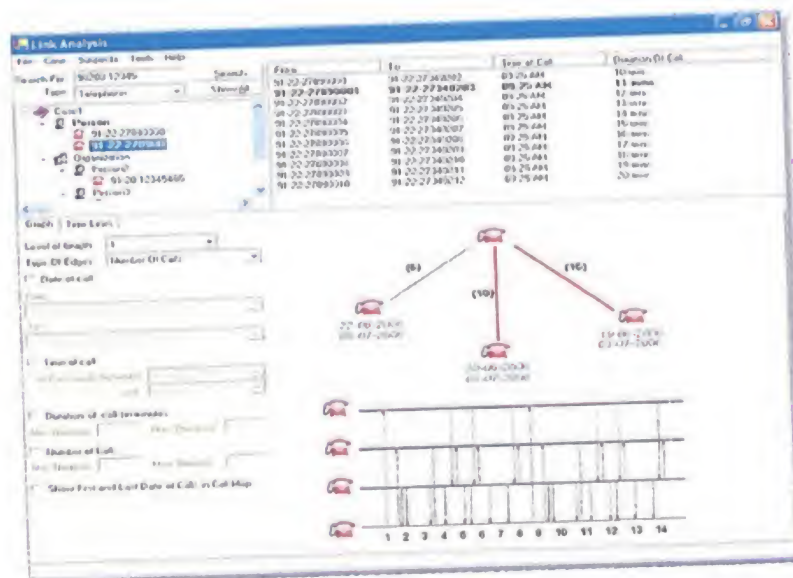
The linkages can be generated for individuals or groups or even for geographic locations. Using metadata an LEA person can drill down into the communication details of a suspect. It will give the details of his contacts, the frequency of the communication with others, type of communication, time of communication etc...

Features

- Graphical representation of a suspect's communication
- Direct and indirect links of suspect's friends and associates
- Advanced filtering mechanism to fine tune the graphs
- Capture the metadata at 10Gbps speeds
- Advanced search options to drill down to suspects communication
- Can work on POP3, SMTP and Webmail

Benefits to customer

- Track the communication of any suspect
- Track a group's activity as a whole
- Determine the degree of separation between two suspects
- Can find out anchor person in the group



Computer and Cellphone Forensics

Paladion specializes in setting up cyber forensic labs for LEAs who are interested in analysis of data in computer and various handheld devices. Paladion provides full solution from hardware and software delivery, training, implementation and in assisted case management. Paladion also provides services for developing methods and documents for carrying out various investigative tasks.

The list of hardware and software delivered by Paladion includes-

1. **Disk Forensics-** software and hardware for forensic analysis of data in computer disk. This also includes accessories for data acquisition and data duplication in secure manner. The system can carry out free text search, recover damaged or deleted files, analyse images and various historical user activities.
2. **Cellphone Forensics-** Software and hardware for forensic analysis of data in various handheld devices. It supports multiple mobile operating system platform. Also includes system for analysis of SIM cards.
3. **Damaged hard disk analysis-** provides system for analysis and retrieval of data from partially damaged hard disks. The damages can include from hard drive component failure, media surface contamination to physical damages or damages due to fire and water.
4. **Network traffic analyzer-** product for capturing and visually analyzing the computer traffic flowing through an network. The product scales up to handle over 10 Gbps of bandwidth. The system also supports log analysis and file regeneration from network traffic.
5. **Investigation case management-** Automated workflows, case management and data storage system for secure management of forensic cases.
6. **Supporting Tools-** Password breaking tools, steganography detection tools, hardware blockers, disk wipers and other accessories required in a forensic lab.

It is imperative that evidence be collected by trained computer forensic experts that follow forensically sound processes to ensure that the resulting digital evidence withstands legal scrutiny. Paladion provides turn key solution for setting up forensic labs with all processes and training.





About Paladion

Paladion is the fastest growing information security company in Asia (as ranked in Deloitte Technology Fast 500 Asia Pacific 2006, 2007, 2008 & 2009). With a global footprint across 15 countries and decade of experience in the information security domain, Paladion today is actively managing security for over 450 customers. It provides security assurance, compliance, governance, monitoring and management services to large and medium sized organizations.

Paladion also offers solutions for communication interception to law enforcement agencies and service providers. Paladion's security solutions have been awarded by Asian Banker, Red Herrings, and Financial Insights. Paladion is also included in Gartner's rating of "MarketScope for Managed Security Services in Asia Pacific."

Paladion is involved in several security research forums and has authored books on security management.

Awards & Recognitions

Deloitte

Fastest growing security company in Asia & featured in Technology Fast 500 AsiaPac 2006, 2007, 2008 & 2009.

THE ASIAN BANKER

STRATEGIC BUSINESS INTELLIGENCE FOR ASIA'S FINANCIAL SERVICES COMMUNITY
Best Banking Security Systems Implementation 2007 & 2008

RED HERRING

Top 100 Finalist in 2007 & 2008.

Info Security

'Tomorrow's Technology Today' for application security in 2009

Financial Insights

FIIA 2009 for innovation in Enterprise Security Management

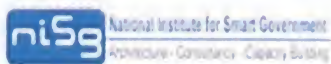
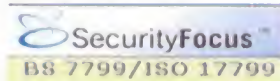
Gartner

Recognized in the Market Scope Report for 2008 & 2009

2010 Product Innovation Award for manageSMS and Verity



Global Associations



Publications



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